

Chapel of the Ruins

A Sacred Place
Dedicated to Nature's Healing Grace
at D&H Gravity RR Plane No. 14



Figure 1. Shadows of the Past

Inventory of Historic Resources

April 2023

1. Background

The Chapel of the Ruins was incorporated as a Pennsylvania 501(c)(3) nonprofit in 2022 with a Mission Statement that includes preserving and providing access to the unique remaining structures of the Delaware & Hudson Gravity Railroad Plane No. 14 and attendant natural resources. The Chapel is located on a long narrow 16.36 acre parcel consisting of the north face of a steep slope descending to Lackawaxen River in Texas Township, Wayne County, Pennsylvania. The property is currently owned by Scott & Paula Bennett and has a mailing address of 275 Bear Swamp Rd., Honesdale, PA 18431.

When the Bennetts purchased the property in 2017, it was soon evident to them that the property held more than just “trails through the woods.” After contacting Sally Talaga and Wayne County Historical Society, the Bennetts were put in touch with Dr. S. Robert Powell, the author of the definitive (and ever-expanding) *History of the Delaware and Hudson Canal Company* in 24 volumes. Dr. Powell has proven to be a wonderful resource for historical references, an enthusiastic supporter of the preservation goals of the

Chapel of the Ruins, and a good friend with a kind heart and a keen mind. The Bennetts are most grateful that he has graciously consented to our including materials from his historical treatise into this Chapel of the Ruins Inventory of Historic Resources.

2. The History - Delaware & Hudson Gravity Railroad

A. 1823 - 1829 Formation

It was the early 1800's and America was experiencing its first energy crisis: there was nothing left to burn. Formerly lush woodlands were being depleted to provide heating and cooking firewood. The problem was exacerbated by continuing post-War of 1812 import restrictions on British bituminous coal, with additional stands of trees being burned to produce charcoal to help fuel America's burgeoning Industrial Revolution. Markets in New York and Philadelphia were hungry for fuel.

In 1812, two brothers — Philadelphia dry goods merchants William and Maurice Wurts — identified veins of anthracite coal deep in the Pennsylvania wilderness at what is now Carbondale, Pennsylvania. Recognizing the shining black rock for the valuable fuel source that they (now joined by their brother Charles) quietly began acquiring title to thousands of acres of wilderness properties over the next two years. But having a product is one thing; transporting that product to through the wilderness to markets in New York City (about 200 miles away as the crow flies) is quite another.

In 1821, the Erie Canal had opened creating news coverage for this exciting transportation technology. Backed by this news and the ever-pressing need for fuel, the Wurts brothers joined with other financiers to form the Delaware and Hudson Canal Company in 1823 for America's first million dollar stock offering to provide the financing to carve a water transportation system into the Pennsylvania wilderness to bring the anthracite coal to markets in New York City and Philadelphia.

With financing in place, the D&H Canal project now turned to the practical engineering problems presented by transporting an anticipated hundred thousand tons of anthracite coal annually from mine to market across a wilderness. To address this dilemma, the D&H management — who prided themselves on identifying the best minds and talent for their project — selected an ambitious young engineer named John Jervis to design their system. Jervis began his career in Rome, NY as an Axeman for an Erie Canal survey party in 1817. By 1823 he had advanced to the position of superintendent of a fifty-mile section of the Erie Canal. In 1827 he was appointed Chief Engineer of the Delaware and Hudson Canal project.

It was John Jervis who suggested that a railroad be incorporated into this project to transport the coal the sixteen miles across the rocky and hilly Pennsylvania terrain from the mines to the D&H Canal's northern terminus in Honesdale. Although canals were a proven technology, at this time there were no railroads in America. In spite of this fact, Jervis won approval of his idea and even designed the railroad's locomotive, the Stourbridge Lion, the first locomotive to run in America. Although the Stourbridge Lion experiment failed — a single run on August 9, 1829 proving the heavy steam engine weighed too much for the railroad's hemlock trestles — a gravity railroad system was carved into the wilderness and successfully completed. Built by manual labor without the benefit of power equipment, the 1829 system

designed by Jervis ingeniously permitted the loaded coal cars to roll by gravity from the top of Fairview mountain to the canal docks in Honesdale.

In recognition of John Jervis's genius in designing and constructing the Delaware and Hudson Canal and Gravity Railroad, Port Jervis, N.Y. was named for him.

B. 1829 - Initial Design

The system that Jervis designed began operations on October 9, 1829. The railroad was originally constructed as a single track from Carbondale to Honesdale. It started at the mines in Carbondale, with 5 inclined planes ascending 863 feet to the summit on Farview Mountain at Rix's Gap in the Moosic Mountains. Each ascending plane was powered by a stationary steam engine which lifted the loaded cars to a "level" which was graded slightly to allow the loaded cars to roll by gravity to the foot of the next plane.

In the 1829 configuration, after cresting Farview Mountain rail cars loaded with anthracite coal began the 950-foot descent to Honesdale by rolling down from the summit by force of gravity in unpowered trains manned by a brakeman operating a muscle-powered hand-brake to control speed of descent. These trains passed through Waymart (formerly "Clarksville") on the "six mile level" (descending at the rate of 44 feet per mile) to the head of a single plane at Prompton, where the track crossed to the north bank of the river.

After descending the plane at Prompton, loaded cars traveled down the "four mile level" which descended at 26 feet per mile and required horses to assist in pulling the loaded cars to destination at the D&H Canal boat loading docks in Honesdale.

In the opposite direction, the empty cars were towed by horses for the trip back to the mines. Each plane contained a single track, with an automatically switched siding in the center where the loaded and empty cars could pass.

By the 1840's, various improvements to the 1829 system had increased the annual capacity of two hundred thousand tons, but that wasn't enough for James Archbald, who had succeeded John Jervis as the General Superintendent of the Delaware and Hudson Canal Company.

C. 1842-1845 Improvements to the D&H Gravity RR incl. Plane No. 14

An excellent summary of the concept underlying James Archbald's improvements to the original 1829 system design which resulted in the 1845 configuration of the D&H Gravity RR is provided as a part of Archbald's biography in J. A. Clark's monumental work on the history of northern Pennsylvania up to 1875.

While Mr. Archbald was in charge of the Delaware & Hudson Railroad at Carbondale he conceived the plan of raising the road at the head of each plane, and lowering at the foot of the next, and in this way making a slight decline from the head of one plane to the foot of the next. As the road was before that constructed it was perfectly level between the planes and the cars were drawn back and forward from one to the other by horses. Mr. Archbald's plan was to make avail of the force of gravity by a slight inclination, so that

the cars would run of themselves after being drawn up the planes by the stationary engines. He laid his proposition before the managers of the company, and with difficulty succeeded in getting permission to try it between planes Nos. 4 and 5. But so successful was this change when tried, that it was not only at once adopted along the whole line, but it was decided by Mr. Wurts, the President, not to mention the matter in his annual report, that the company might have full enjoyment and monopoly of the invention. This simple plan has been in use by the company ever since, and in 1847, when Mr. Archbald took charge of the constructions of the Pennsylvania Coal Company's road, he laid it out in the same way. He died at Scranton, August 26th, 1870. His remains were deposited in the cemetery at Dunmore.

J.A. Clark, *The Wyoming Valley, Upper Waters of the Susquehanna, and the Lackawanna Coal-Region, including Views of the Natural Scenery of Northern Pennsylvania, from the Indian Occupancy to the Year 1875* (Scranton: J. A. Clark, publisher, 1875) as set forth in Dr. Silas Robert Powell's historical treatise in Vol. 2, *Gravity Railroad: 1845 Configuration*. [Emphasis supplied].

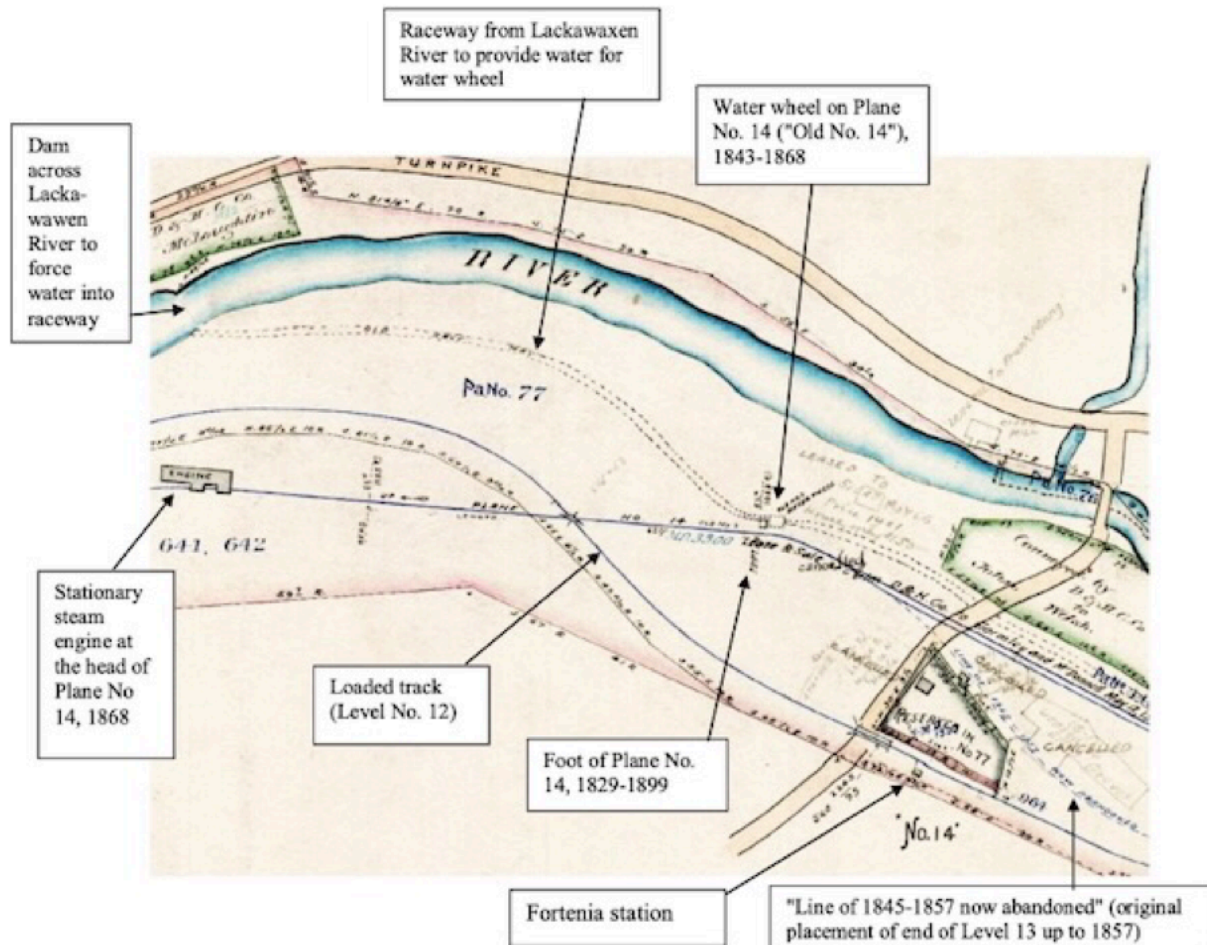
One of the innovations implemented in James Archbald's re-design of the D&H Gravity solved two problems with a single stroke. By removing its right-of-way from the north side of the Lackawaxen River and relocating it to be exclusively on the south side of the river, the D&H avoided having to maintain a bridge across that temperamental mountain stream. The relocation also allowed the D&H to construct two separate track beds: one for loaded coal cars rolling east along a new ten mile level and a second (referred to as the light track) for empty cars returning west. Steep rock-faced hillsides along the south side of the Lackawaxen River were selected as providing a solid foundation for the construction of the track beds that gently sloped down in a precise descent toward destination.

Because the west-bound empty traffic in the 1845 configuration had to climb the elevation that the east-bound loaded traffic simply rolled down, the light track system incorporated a system of levels where the empty cars were either pulled by horse or where a gentle slope allowed gravity to roll the empty cars to the base of the new inclined planes where they would be pulled uphill from the base to the head of the plane. One of the those new inclined planes, the second after leaving Honesdale (often called Plane No. 2 by the locals) was Plane No. 14, the current site of the Chapel of the Ruins.

At the base of Plane No. 14 in the 1845 configuration, the empty coal cars were hooked to a chain (subsequently replaced by hemp rope and finally by Roebling wire rope) and pulled to the top of the plane using the motive force from an undershot water wheel that was 20 feet in diameter and 20 feet wide. Once the empties reached the head the plane, they were unhooked with sufficient remaining momentum to roll along the gentle downward slope of the light track through Level 14.

The following map provided in Dr. Powell's treatise shows how water was supplied to the water wheel at Plane No. 14 by means of a dam diverting the flow of the Lackawaxen River down a raceway to the water wheel and then back to the Lackawaxen River.

Plane No. 14: Note that in this view from the 1895 Gravity Railroad map volume that the exact location of "Old No. 2 Water Wheel" (water wheel on this plane when installed in 1843 revision and there until 1868) is shown. Also shown is the "Old Race Way" (the race which supplied the water to power the wheel). It is called here "Old No. 2," i. e., the second plane out of Honesdale, i. e., Plane No. 14.



In the late 1850s, a thorough overhaul of the system took place, on both sides of the Moosic Mountain. At that time, the revised configuration of the light track from Honesdale to Waymart very probably became the light track that served from then until the closing of the system at the end of the 19th century. That revised configuration is what is shown in the 1895 Gravity Railroad map volume.

Figure 2
From Dr. S. Robert Powell's *History of the Delaware and Hudson Canal Company*,
Vol. 2, Gravity Railroad: 1845 Configuration

D. 1868 - Installation of 75hp Stationary Steam Engine at Plane No. 14.

In 1868, the last remaining water wheel on the D&H Gravity Railroad (the one at Plane No. 14) was replaced by a 75hp dual piston stationary steam engine manufactured at the Dickson Works in Scranton. In Dr. Powell's words

The last of the four water wheels in use on the light track from Honesdale to Waymart was taken out in 1868. This we know from an article in the Honesdale Herald that was reprinted in the Saturday, February 8, 1868 issue, p. 3, of the Carbondale Advance. Here is that article:

"The Del. & Hud. Canal Co. have just put a stationary steam engine in at Plane No. 14, on their railroad, in place of the old water power. The engine was built at the Dickson Works, Scranton, and has been placed in charge of Silas Hoyle as Head Engineer and Walter Bryant, Assistant.

The company now work the cars on all their planes by steam power. Herald." (Carbondale Advance, Saturday, February 8, 1868, p. 3.)

Silas Robert Powell, Ph.D., History of the Delaware and Hudson Canal Co., Vol. 4, Gravity Railroad: 1868 Configuration

Also, remember the name of Silas Hoyle, the original Head Engineer of Plane No. 14 mentioned in the February 1868 newspaper article, as it appears later in our story.

E. Passenger Service on the D&H Gravity RR (1877-1899)

Interested in hearing about a high speed thrill ride through gorgeous natural scenery? Here is Dr. Powell's description of passenger service on the D&H Gravity RR.

Passenger Service to Honesdale: Passenger service on the Gravity Railroad between Carbondale and Honesdale was initiated on Thursday, April 5, 1877, with two trains running daily. The first one left Carbondale at 8:15 A. M. and the second at 3:15 P. M. Leave Honesdale at 7:30 A. M. and 2:45 P.M. The fare was eighty cents.

Passenger service on the Gravity Railroad was an instant and a huge success, and the public very quickly learned that riding over the Moosic Mountain — and through the celebrated Shepherd's Crook on Level 20 — was an enjoyable and thrilling experience. The D&H capitalized on the success of passenger travel over the Moosic Mountain and established a destination, Farview Park, on the summit of the mountain. The park, which opened in the fall of 1885, consisted of more than 600 acres, about 30 of which were improved as a picnic ground. In the park there were more than 20 buildings, the largest of which was a pavilion, 175 feet long by 35 feet wide, and built with four wings. In the park were swings, rustic seats, tennis courts, football and baseball grounds, shaded walks, open visas, pure drinking water, and two observatories. From the higher of the two observatories, at 2,345 feet above sea level, more than 20 cities and villages and 17 lakes could be seen.

Farview Park was an instant success, and civic, community, and church groups from all over northeastern Pennsylvania — and from as far away as metropolitan New York and Boston — travelled to the Carbondale-Waymart-Honesdale area, not only for the thrill of riding over the Gravity Railroad but also for the pleasure of spending the day — in the salubrious fresh air and sunshine — at Farview Park. During the height of the summer season, the D&H transported — in open air excursion cars and in regular and deluxe passenger coaches as many as **fifteen thousand people a day** to Farview Park.

Dr. S. Robert Powell, *History of the Delaware and Hudson Canal Company*, Vol. 4: 1868
Configuration [Emphasis supplied]

F. The End of Rail Service on the lines of the D&H Gravity RR

Although the D&H Canal and its attendant gravity railroad ceased operation in 1899, when the efficiencies of railroad steam locomotives made the costs of operating a canal system uncompetitive, the loaded track was converted from the narrow gauge used by the gravity railroad to a standard gauge railroad utilizing steam engines and service continued from 1899 until September 9, 1931, when service to Fortenia (pronounced as “Fourteen-a” by the locals) Station near the site of the Chapel of the Ruins ceased with the abandonment of the rail line by the D&H and the subsequent removal of the tracks that was completed by April 28, 1933.

3. Chapel of the Ruins Inventory of Historic Resources

A. Overview

Figure 3 provides an aerial view of the Chapel of the Ruins property and demonstrates the location of the various historic resources described in the following text.

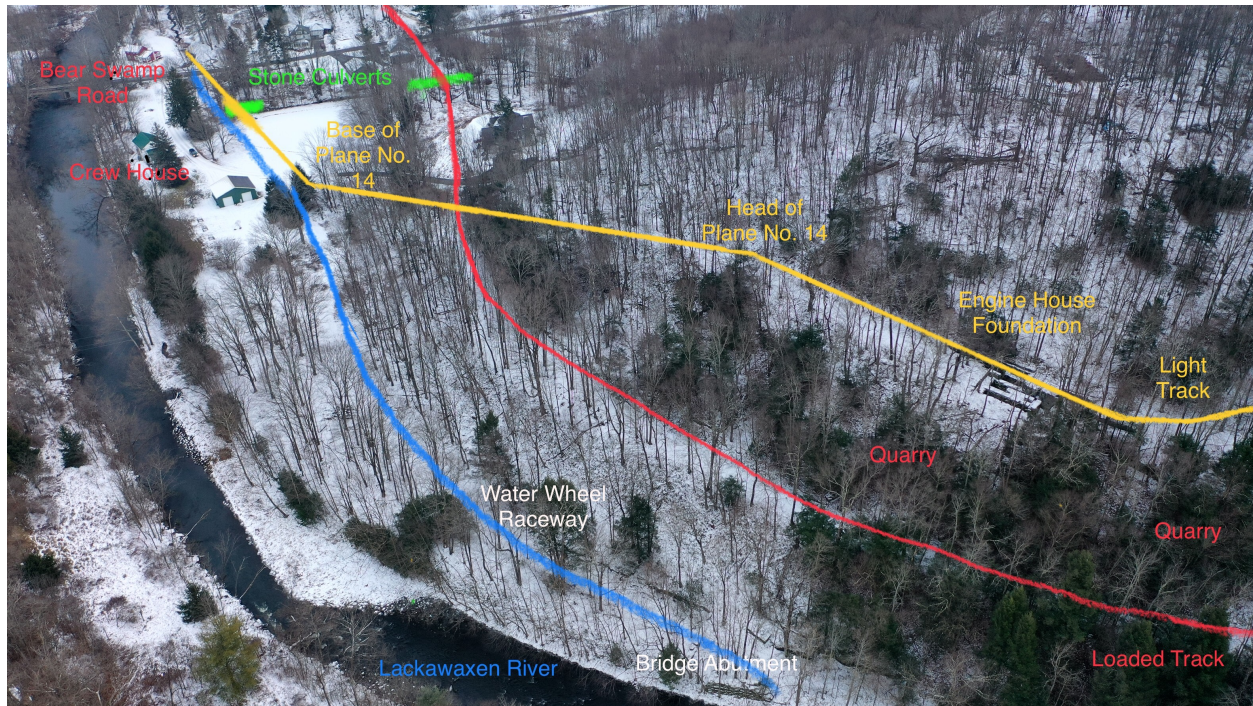


Figure 3. Aerial view

Starting at the bottom of Figure 3, the first level is the flats along the Lackawaxen River (raised above the shoreline) that include the structures associated with the bridge abutment for the Honesdale and Clarksville Turnpike, which operated at the Chapel of the Ruins site from 1830 until 1845 (when the turnpike right-of-way was relocated to the north side of the Lackawaxen River). Also on this level is the water wheel raceway from the Lackawaxen River [blue line] used to provide water to the 20 foot D&H water wheel installed at the base of Plane No. 14 in 1843 to provided the motive force to pull empty coal cars up Plane No. 14 until being replaced by the stationary steam engine at the head of the plane in 1868. Additional associated railroad structures on this level include the Head Engineer's house and stone culverts [green lines] used to allow an small unnamed stream to pass under the two track beds [yellow and red lines].

The next level up is the bed of the loaded track [red line] cut into the hillside as a part of the 10 mile level and used to roll loaded coal cars (1845-1899) and passenger cars (1877-1899) from the top of Farview Mountain down to the D&H Canal terminus in Honesdale.

Finally, the third level consists of the unloaded light track including Plane No. 14 [yellow line] installed as a part of the 1843 improvements to the Gravity and the last remaining D&H Gravity RR engine house foundation for a 75hp double piston stationary steam engine installed in 1868 to replace the 1843

waterwheel. Note: the stone from two other Gravity RR engine house foundations was sold, commercially extracted, and subsequently incorporated into the stonework at the Bethel Woods Center for the Arts at the site of the 1969 Woodstock Festival. At this point, only the Ruins remain intact.

B. D&H Gravity RR Plane No. 14 & Intersection with Loaded Track

The 1845 configuration of the Delaware and Hudson Gravity Railroad is a 19th century engineering marvel! Constructed by immigrant labor working exclusively with hand tools, using ropes and pulleys, gears (and a bit of black powder for blasting), their impressive work — two precisely sloped track beds with elaborate stone foundations — remains remarkably intact for approximately 1/2 mile along the north face of this steep hillside above the Lackawaxen River. With easy transitions between the light and loaded tracks at either end of the hillside, a hike along both tracks in a one mile loop is readily available.



Figure 14. View from the base of Plane No. 14

But what did Plane No. 14 look like back in the Gravity RR days? Well, we know that Plane No. 14 was 629 feet long with an elevation gain of 102.55 feet over that distance. Using trigonometry, we can calculate the sine of the angle of Plane No. 14 by dividing 102.55 by 629 for a result of 0.163. Using a table of sines, we find that the Plane No. 14 was built on a 9.5° slope.



Figure 15. View of slope from raceway.

Figure 15 shows a 9.5° slope drawn on a view from the side of Plane No. 14 as seen from the bed of the 1843 raceway showing that the slope precisely follows the bed of the light track that remains to date as shown from the base of the plane across the intersection of the tracks (as shown in Figure 16 below) and further up the slope to the head of the plane.



Figure 16. Intersection where light track of Plane No. 14 crosses over loaded track



Figure 17. View down loaded track to the east showing intersection with Plane No. 14 light track on the left



Figure 18. Looking down to the base of Plane No. 14 from the point on upper light track bed where the light track trestle crossed over the loaded track. A second trestle (starting near the location of the current paved driveway) carried the loaded track to the track bed built into the hillside across Bear Swamp Road.



Figure 19. Looking up light track bed to head of Plane No. 14

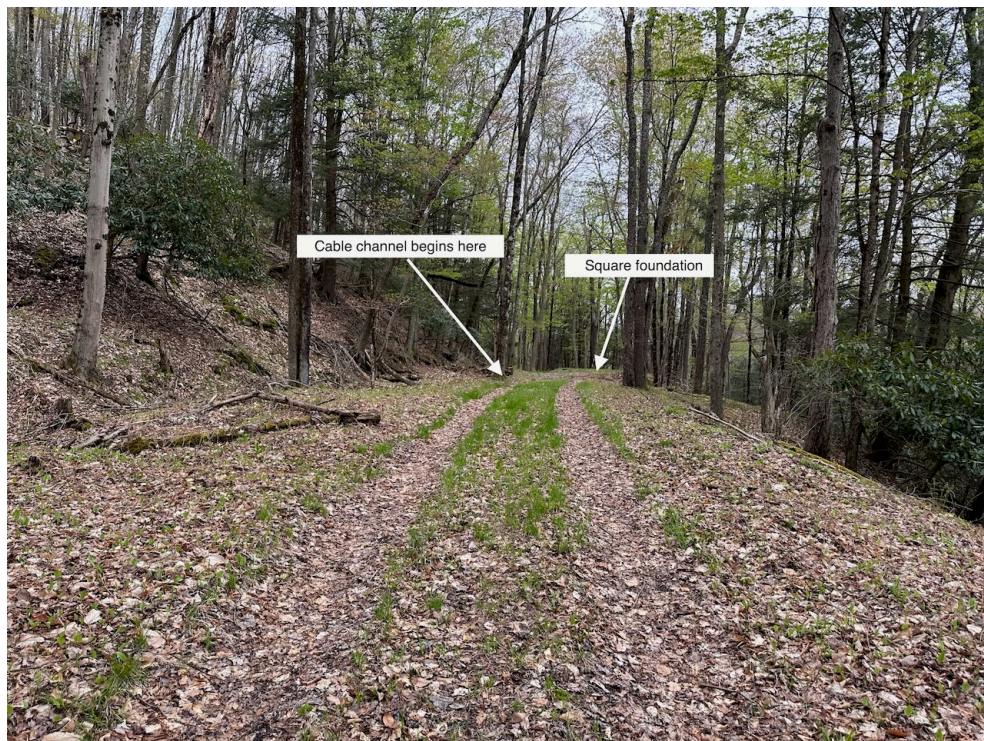


Figure 20. View looking west on light track from head of Plane No. 14. The Roebling steel cable used to pull cars up Plane No. 14 would have left the engine house where indicated.

C. Engine House Foundation

In 1923, the D&H celebrated its 100th anniversary with the publication of *A Century of Progress: History of the Delaware and Hudson Company*. The Foreword to that volume begins with a quote from Ruskin: “[w]hen we build, let us think that we build forever. Let it not be for the present use alone; let it be such work as our descendants will thank us for.”

The Plane No. 14 engine house foundation (which we refer to as “the Ruins”) demonstrates how the engineers and craftsmen of the Delaware & Hudson Gravity RR met that lofty goal.



Figure 21. Stone mount for stationary steam engine



Figure 22. Panoramic view (some fish-eye distortion)

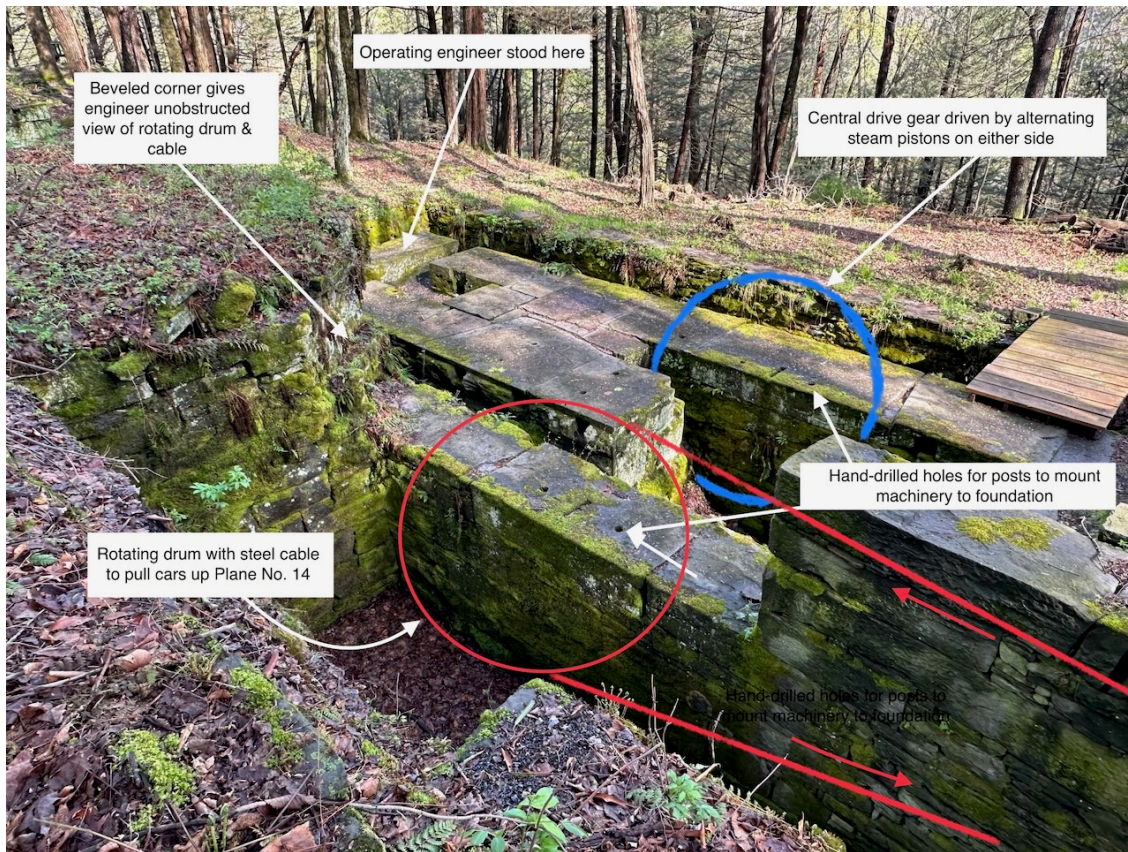


Figure 23.. Relative positions of engineer, central drive gear and rotating drum with cable



Figure 24. Slot for central drive gear between alternating steam pistons

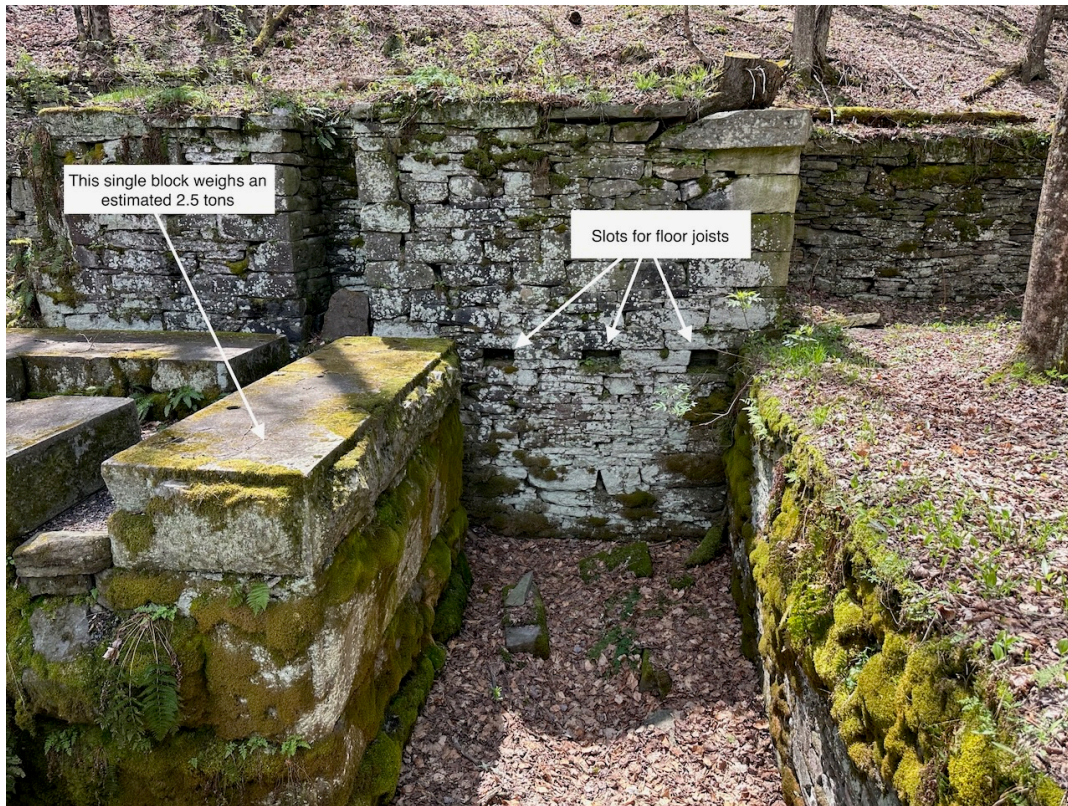


Figure 25. West end of engine house



Figure 26. View down Level 14 showing light track location

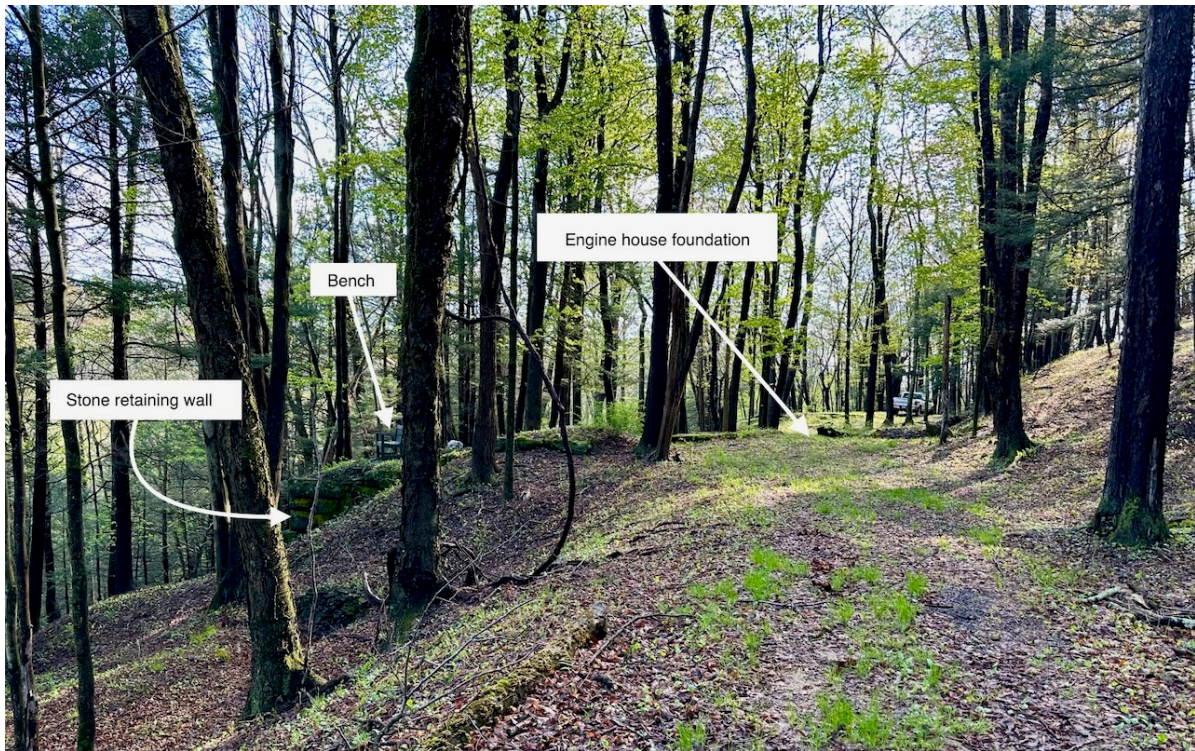


Figure 27. View from light track back to engine house and retaining wall

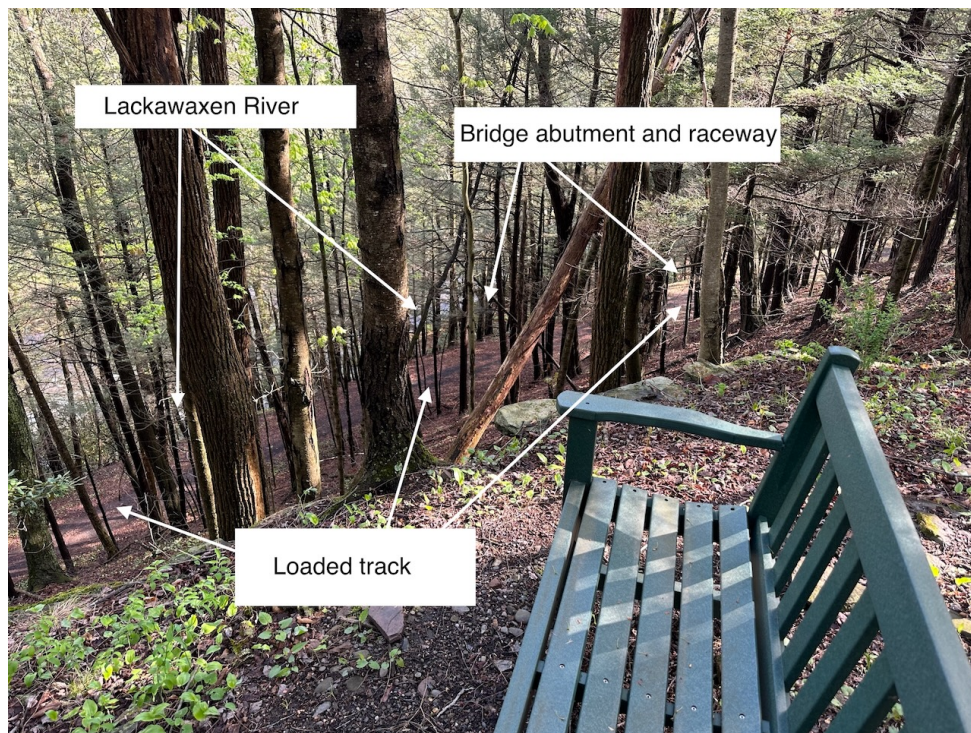


Figure 28. The bench offers dramatic views down to the loaded track and river

D. Loaded Track with Quarries

The Chapel of the Ruins has available approximately 1/2 mile of well-preserved loaded track with two quarry areas where stone was extracted for the engine house foundation.



Figure 28. Looking up loaded track to the west just after intersection of tracks. 1st quarry is just before the curve on the left.



Figure 29. Loaded track to the west with 2d quarry on the left and river on the right.



Figure 30. 2d Quarry. Close-up of area in green appears in Figure 31 below



Figure 31. Stone wall supporting light track passing above the 2d quarry. The size of the rhododendron leaves gives a sense of scale.

E. Honesdale-Clarksville Turnpike Bridge Abutment

From 1830 to 1845, the Honesdale Clarksville Turnpike crossed from the north side to the south side of the Lackawaxen River by means of a bridge for which only the south side abutment remains at the Chapel of the Ruins. Unfortunately, prior to the Bennetts' restoration efforts, ash trees had grown into the rocks of the abutment, and with the falling of the trees killed by the emerald ash borer, some abutment stones were dislodged as shown in Figure 34 below. A number of other trees, including a large yellow birch, whose roots had grown into the stonework have been sawn down at stone level to preserve the remaining structure. A possible restoration project would be the re-placing of the dislodged stones.



Figure 32. North Face of Bridge Abutment



Figure 33. South Face of Bridge Abutment



Figure 34. Damage from dead trees

F. Raceway and Related Unidentified Structures

As noted above, the 1843 configuration of the D&H Gravity RR used a dam to divert water from the Lackawaxen River down a raceway to power the 20 foot water wheel at the base of Plane No. 14. Figure 35 below shows the natural stone features that formed the raceway, with the slope up to the loaded track appearing on the left. Figure 36 shows additional stone structures of currently unknown purpose



Figure 35. Looking West Down the 1843 Raceway

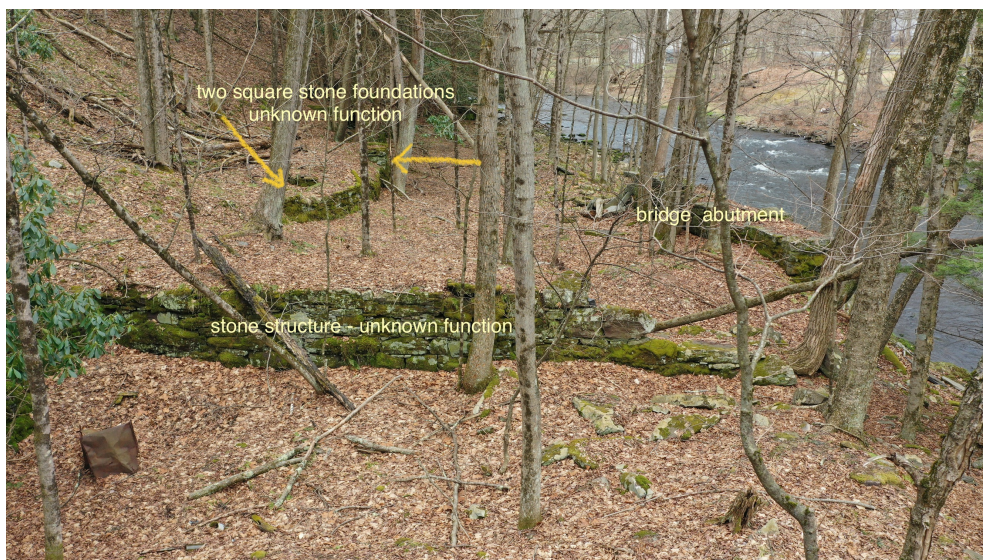


Figure 36. Stone Structures - Unknown Purpose

G. Chapel of the Ruins Farmhouse (f/k/a Plane No. 14 Head Engineer's House f/k/a 1943 Water Wheel Crew House?)



Figure 37. Chapel of the Ruins Farmhouse

The deeds in the real estate chain of title identified during the Bennetts' purchase of the property show that the Chapel of the Ruins Farmhouse was located on prior 1.6 acre parcel described on the 2010 deed [Wayne County Deed Book 4113 at page 150] by which the Bennetts' predecessor took title as "originally conveyed by the D & H Co., to Catherine Moser under date of May 13, 1904." The property was held by the Moser family from 1904 until the summer of 1960, when Frederick R. Moser conveyed the property to Clyde and Helen Quinn by deed dated July 29, 1960.

After taking residence, Clyde and Helen Quinn raised their four daughters at the Farmhouse. Clyde and Helen used the downstairs bedroom with its cedar lined closets and cedar dressers. Each of the four daughters had an upstairs bedroom. Clyde Quinn passed away on May 4, 1975. Helen Quinn died on February 26, 1986 leaving a Last Will and Testament providing "In the event of my death, all my properties, land, house and personal belongings, will be divided between my four daughters, Carol, Diane, Nancy Poo, and Susie."

The Farmhouse continued in use as a Quinn family vacation residence until the death of Quinn granddaughter Lisa Yuska Cronin in 2007, when the Farmhouse was winterized and closed up.

The various parcels of real estate now comprising the Chapel of the Ruins were acquired by the Bennetts' predecessor in title in 2010 and 2011 and conveyed to the Bennetts in 2017. Those parcels have now been consolidated by the Bennetts into a single 16.36 acre parcel.

Prior to the Bennetts rehabilitating and reopening the Farmhouse for their 39th wedding anniversary in August of 2022, their plumber found two water intake pipes in the basement. One turned out to be connected to a hand dug well that also fed the pond and which reportedly provided water to the four nearby residences in the past. The second water intake proved to be connected to drilled well with a “Fritz Bros. Welling Drilling Honesdale, PA” cap on it that was located *under* an addition to the kitchen. A telephone call to Fritz Bros. confirmed that their records reflected a well drilled for Clyde Quinn in 1966 that was “90 feet deep with 40 feet of casing.” The well was, and continues to be, an artesian well from which water flows freely without the need for a well pump, a good thing since a kitchen addition was subsequently built *over* the well head.



Figure 38. Mason produced foundation stones

During the time that the Bennetts have owned the property, they were unsure as to when the Farmhouse was constructed and whether it was associated with the D&H Gravity RR.

Recently, they noticed that the oldest stones in the Farmhouse’s two feet thick foundation were not field stones, but rather quarried stone cut by masons. Figure 38 to the left shows 1 foot square foundation stones that are over four feet in length. After reviewing Dr. Powell’s Plane No. 14 materials, graciously provided by him to aid in the preparation of this Inventory, they noticed a penciled addition to the 1895 map described above, an enlarged copy of which is Figure 39 below.

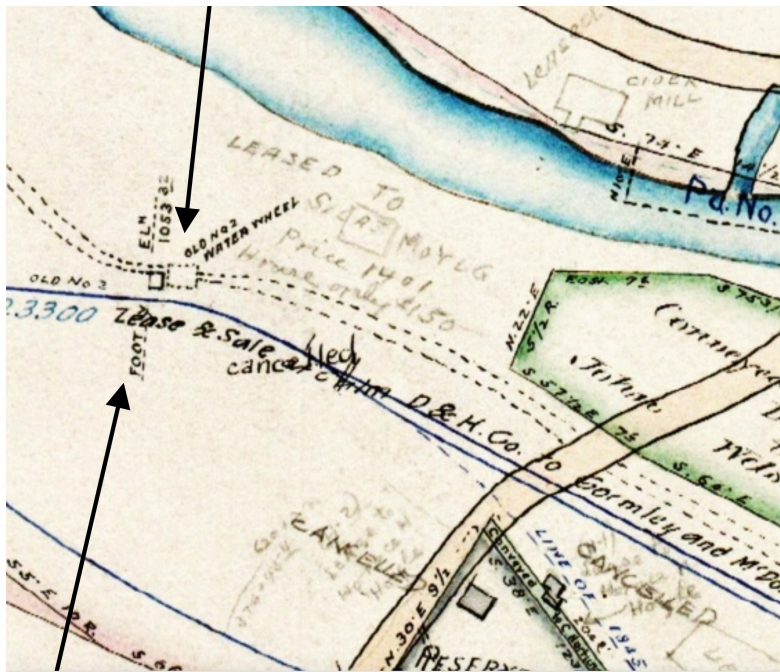


Figure 39. Detail of 1895 D&H System Map

On Figure 39, the Farmhouse is shown in its current location relative to the base of Plane No. 14 and the stream entering the Lackawaxen River from the north. Remember the newspaper article about the installation of the steam engine and appointment of Silas Hoyle as Head Engineer in February of 1868? We believe it is fair to say that that at some point after the production of the map in 1895, a pencil addition was added showing the Farmhouse and indicating that it was leased to none other than Silas Hoyle. In discussing this matter with Dr. Powell, he has confirmed that the Head Engineers were essential to the operation of their Gravity RR planes and that on-site housing was often provided by the D&H for their residence and immediate availability

at need.

The 1895 map also appears to have been used to keep track of real estate matters and transactions involving the D&H properties by means of pencil notations. In the case of the Head Engineer's residence at Plane No. 14, the notation indicated a "Price 1401" and "House only \$150". The Bennetts currently believe that the Farmhouse was constructed by crews of D&H masons and carpenters to serve as the Plane No. 14 Head Engineer's residence when the stone foundation for the Plane No. 14 steam engine and engine house were being built prior to their commencing operations in February of 1868. Additional investigation is required to determine Silas Hoyle's date of death and whether he continued to reside in the Farmhouse until his passing or the conveyance of the residence to Catherine Moser in 1904.

From a visual inspection, one may easily determine that at least three subsequent additions have been made to the original 1868 structure: a large covered front porch, a bathroom with "indoor plumbing", and an addition to the kitchen made by the Quinns after the well was drilled in 1966.

From a recent inspection of the cellar foundation, it appears that there was a field stone cellar and that mason-cut foundation stones appearing in Figure 39 were added to that pre-existing structure. The investigation will continue for evidence that the Chapel of the Ruins Farmhouse had a prior function in association with the D&H 1843 water wheel.

Shortly after their purchase of the property, the Bennetts noticed that the original roof of the closed-up Farmhouse was leaking badly (providing the Bennetts with the opportunity to learn the skills required for repair of lath and plaster ceilings), and a metal roof was placed over the pre-existing roof in 2018 to preserve the structure. Restoration will continue during the summer of 2023 with maintaining the existing exterior cedar siding, but giving it a thorough cleaning, sanding, priming and painting. Additional restoration work still to be completed includes the replacement of two rotted and thereby ill-fitting cellar doors and a rotted window sill. All restoration work will proceed with an eye toward preserving historic features whenever possible.

H. Stone Culverts

The two track beds added as a part of the D&H's 1845 configuration both crossed a small unnamed stream flowing down the hill to the Lackawaxen River near the eastern boundary of the present day Chapel of the Ruins. As noted to the author by Conrail's Chief Operating Officer Richard Hassleman during a 1987 Conrail Law Department Inspection Trip "the three rules of railroad track maintenance are drainage, drainage, and drainage". Accordingly, in the 1840's the D&H's masons constructed a sluice culvert under the light track and a stone box culvert under the loaded track to allow the small unnamed stream to flow unimpeded.



Figure 40. Stone box culvert under loaded track



Figure 41. Stone sluice under light track

I. Spool of Telegraph Wire

A Chapel of the Ruins preservation project will include the recovery and preservation of this spool of telegraph wire partially buried on the flats near the raceway.



Figures 41 and 42. Spool of telegraph wire & detail of spliced lines

J. Roebling Steel Cable.

Figure 43 below is a piece of Roebling steel cable that was recovered from a railroad scrap pile in back of the Bennetts' residence. It took the dulling of five (5) carbide Sawzall blades to sever this length of cable. The real question though is how they tied the knot.



Figure 43. Roebling steel cable

After a difficult but determined dissection, we can state definitively that this sample of Roebling steel cable consists of 6 woven wire strands consisting of 18 wires each wound around a central core of woven hemp rope.



Figure 44. Dissected steel cable

K. Recovered Scrap Parts



Figure 45. Steel cable sheave



Figure 46. Large iron pin



Figure 47. Bent coal car axle